

We claim:

1. An assembly for compressing gas, comprising a source of said natural gas connected to a guided rotor compressor, a source of lubricant fluid connected to said guided rotor compressor, means for producing a compressed mixture of said gas and said lubricant fluid in said guided rotor compressor, means for feeding said compressed mixture of said gas and said lubricant fluid to a heat exchanger to produce a cooled compressed mixture of said gas and said lubricant fluid, and a separator connected to said heat exchanger, wherein said separator is comprised of means for separating liquid from gas in said cooled compressed mixture of said gas and said lubricant fluid.
2. The assembly as recited in claim 1, wherein a thermostatic control valve is disposed between said guided rotor compressor and said heat exchanger.
3. The assembly as recited in claim 2, wherein said thermostatic control valve is comprised of a first output line connected to said heat exchanger.
4. The assembly as recited in claim 3, wherein said thermostatic control valve is comprised of a second output line connected to a separator.
5. The assembly as recited in claim 4, wherein said thermostatic control valve is comprised of means for feeding said compressed mixture of said gas and said lubricant fluid to said heat exchanger when the temperature of said compressed mixture of said gas and said lubricant fluid is above a certain specified temperature.
6. The assembly as recited in claim 5, wherein said thermostatic control valve is comprised of means for feeding said compressed mixture of said gas and said lubricant fluid to said separator when the temperature of said compressed mixture of said gas and said lubricant fluid is below a certain specified temperature.

7. The assembly as recited in claim 1, wherein said source of lubricant fluid is a source of a mixture of glycol and water.
8. The assembly as recited in claim 7, further comprising a dehydrator connected to said separator.
9. The assembly as recited in claim 8, further comprising a fluid pump connected to said dehydrator.
10. The assembly as recited in claim 1, wherein said guided rotor compressor is a liquid lubricated rotary positive displacement compressor comprised of: a rotary positive displacement compressor comprising a housing comprising a curved inner surface with a profile equidistant from a trochoidal curve; an eccentric mounted on a shaft disposed within said housing; a first rotor mounted on said eccentric shaft which is comprised of a first side, a second side, and a third side; a first partial bore disposed at the intersection of said first side and said second side; a second partial bore disposed at the intersection of said second side and said third side; a third partial bore disposed at the intersection of said third side; and said first side; a first roller disposed and rotatably mounted within said first partial bore; a second roller disposed and rotatably mounted within said second partial bore; and a third roller disposed and rotatably mounted within said third partial bore.
- 11.. The assembly as recited in claim 10, wherein a thermostatic control valve is disposed between said guided rotor compressor and said heat exchanger.
12. The assembly as recited in claim 11, wherein said thermostatic control valve is comprised of a first output line connected to said heat exchanger.

13. The assembly as recited in claim 12, wherein said thermostatic control valve is comprised of a second output line connected to a separator.
14. The assembly as recited in claim 13, wherein said thermostatic control valve is comprised of means for feeding said compressed mixture of said gas and said lubricant fluid to said heat exchanger when the temperature of said compressed mixture of said gas and said lubricant fluid is above a certain specified temperature.
15. The assembly as recited in claim 14, wherein said thermostatic control valve is comprised of means for feeding said compressed mixture of said gas and said lubricant fluid to said separator when the temperature of said compressed mixture of said gas and said lubricant fluid is below a certain specified temperature.
16. The assembly as recited in claim 10, wherein said source of lubricant fluid is a source of a mixture of glycol and water.
17. The assembly as recited in claim 16, further comprising a dehydrator connected to said separator.
18. The assembly as recited in claim 17, further comprising a fluid pump connected to said dehydrator.